ABSTRACT

In a solid state imaging apparatus of the present invention, first and second charge-coupled devices (CCDs) 336A and 336B are prepared as two charge accumulation circuits for one photodiode 330. The first and second CCDs 336A and 336B additionally accumulate charges during an on-state and an off-state of a light emitting source in the imaging apparatus, respectively. After the additional charge accumulation, the additionally accumulated charges in the first and second CCDs 336A and 336B are fed to first and second charge transfer CCD registers 333A and 333B, respectively. The charges in the first and second charge transfer CCD registers 333A and 333B are shifted in sequence to thereby output first and second charge signals, respectively. A differential amplifier 334 of the imaging apparatus calculates and outputs a differential signal between the first charge signal and the charge second signal. By using the imaging apparatus of the present invention, the effect, e.g., backlight and/or over exposure effect, due to background light inputted to the photodiode 330 with almost equal intensity during the on-state and the off-state thereof is removed to thereby obtain a clear image of a target subject formed corresponding to the radiation light from the light emitting source.